

Attorney's Docket No.: 06457-007003

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald V. Smart  
Serial No. : 10/036,431  
Filed : January 7, 2002  
Title : LASER PROCESSING

Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Under 35 USC §120, this application relies on the earlier filing date of application serial number 08/774,107, filed on December 24, 1996. All of the references, with the exception of the following, were submitted to or cited by the Office in the prior application and, therefore, are not provided in this application:

Kcneeny, U.S. Patent No. 5,453,594;

Smart, U.S. Patent No. 5,998,759;

Smart, U.S. Patent No. 6,337,462;

Swinson, "Some Present and Future Applications of Laser Processing—An Overview."

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 18, 2002

James E. Mrose  
James E. Mrose  
Reg. No. 33,264

Fish & Richardson P.C.  
601 Thirteenth Street, NW  
Washington, DC 20005  
Telephone: (202) 783-5070  
Facsimile: (202) 783-2331

40082399.doc

Sheet 1 of 3

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06457-007003	Application No. 10/036,431
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		Applicant Donald V. Smart	
		Filing Date January 7, 2002	Group Art Unit Unknown
(37 CFR §1.98(b))			

## U.S. Patent Documents

Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,208,437	05/1993	MIYAUCHI et al.			
	AB	5,021,362	06/1991	CHLIPALA			
	AC	5,066,291	11/1991	STEWART			
	AD	5,293,025	03/1994	WANG			
	AE	5,611,946	03/1997	LEONG et al.			
	AF	5,685,995	11/1997	SUN et al.			
	AG	3,740,523	06/1973	COHEN			
	AH	4,399,345	08/1983	LAPMAN et al.			
	AI	4,483,005	11/1984	SMART			
	AJ	5,265,114	11/1993	SUN et al.			
	AK	5,473,624	12/1995	SUN			
	AL	5,569,398	10/1996	SUN			
	AM	5,059,764	10/1991	Bear			
	AN	5,128,601	07/1992	Orbach et al.			
	AO	4,847,850	07/1989	Kafka et al.			
	AP	5,163,062	11/1992	Moberg			
	AQ	5,521,932	05/1996	Marshall			
	AR	5,696,778	12/1997	MacPherson			
	AS	5,998,759	12/1999	Smart			
	AT	6,337,462	01/2002	Smart			
	AU	Re 34,192	03/1993	Bear			

## Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AV	5-104266	04/1993	JAPAN				
	AW	WO 94/06182	03/1994	PCT				
	AX	WO 96/12830	05/1996	PCT				

Examiner Signature

Date Considered

EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 2 of 3

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06457-007003	Application No. 10/036,431
Information Disclosure Statement by Applicant (Use several sheets if necessary)		Applicant Donald V. Smart	
		Filing Date January 7, 2002	Group Art Unit Unknown
(37 CFR §1.98(b))			

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	BA	WO 96/15870	05/1996	PCT				

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	BB	Cook, P.W. et al.; "Connections and Disconnections on Integrated Circuits Using Nanosecond Laser Pulses"; Appl. Phys. Lett., Vol. 26, Number 3; pp. 124-126; February 1, 1975
	BC	Faber, Jr, Marshall; "Algorithmic Trimming on Active Circuitry"; Proceedings of the Electronic Components Conference, Washington DC; pp. 248-254, 1974
	BD	General Scanning Inc., Laser Systems Division; "M325 Memory Repair System" brochure; 32 Cobble Hill Road, Somerville, Massachusetts
	EE	Gillespie, D.T. et al.; "Transmittance of Optical Materials at High Temperature in the 1- $\mu$ to 12- $\mu$ Range"; Applied Optics; Vol. 4, No. 11; pp. 1488-1493; 1965
	EF	Hutchens; "New Laser Technology Addresses the Yield Enhancement Challenge of the Evolving Generation of Memory Devices"; Electro Scientific Industries, Inc.; Portland OR 97229 USA; 1993
	BS	Hurtig III, et al.; "An Overview of Laser Functional Trimming Techniques"; Proceedings of the Electronic Components Conference, Washington, DC; pp 240-244; 1974
	BF	Kestenbaum et al.; "Photoexcitation Effects During Laser Trimming of Thin-Film Resistors on Silicon"; IEEE Transactions on Components, Hybrids, and Manufacturing Technology; Vol. CHMT-3, No. 1; 1980
	BI	Kestenbaum, Ami; "Semiconductor Processing Applications With Lasers"; Proceedings of the Technical Program, Int'l. Microelectronics Conference, Anaheim CA; pp 235-244; Feb. 23, 1982
	BJ	Laser Report; "ESI Debuts 1.3-Micron Chip-Repair System"; July 1, 1996
	BK	Litwin et al.; "Laser Adjustment of Linear Monolithic Circuits"; Technical Digest of Int'l. Congress on Applications of Lasers and Electro-Optics, L.I.A.; p. 32; November 14-17, 1983
	BL	Litwin et al.; "Laser Adjustment of Linear Monolithic Circuits"; Laser Institute of America, International Congress on Applications of Lasers and Electro-Optics; vol. 38, pp. 166-173; 1983
	BM	Murray et al.; "Generation of 1.5- $\mu$ m Radiation Through Interactivity Solid-State Raman Shifting in Ba(NO <sub>3</sub> ) <sub>2</sub> Nonlinear Crystals"; Optics Letters; vol. 20, No. 9; pp. 1017-1019; 1995
	BN	James C. North et al.; "Laser Coding of Bipolar Read-Only Memories"; IEEE Journal of Solid-State Circuits; pp. 500-505; August 1976.
	BO	James C. North et al.; "Laser Vaporization of Metal Films - Effect of Optical Interference in Underlying Dielectric Layers"; Journal of Applied Physics; vol. 48, No. 5; pp 2419-2423; June 1977
	BP	Price et al.; "A passive Laser-Trimming Technique to Improve the Linearity of a 10-Bit D/A Converter"; IEEE Journal of Solid-State Circuits; Vol. SC-11, No. 6; pp. 784-794; December 1976
	BQ	Runyan, W.R.; Silicon Semiconductor Technology; Texas Instruments Electronics Series; Chapter 9; page 187; McGraw Hill, New York; 1965.
	BR	Scarfone, et al.; "Computer Simulation of Target Link Explosion in Laser Programmable Redundancy for Silicon Memory; J Mater. Res.; vol. 1, No. 2; pp. 367-381; March/April, 1986.

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form (PTO-1449)

Sheet 3 of 3

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06457-007003	Application No. 10/036,431
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary) (37 CFR §1.98(b))		Applicant Donald V. Smart	
		Filing Date January 7, 2002	Group Art Unit Unknown

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	CA	Shui et al.; "Effect of Vapor Plasma on the Coupling of Laser Radiation with Aluminum Targets"; J. Quant. Spectrosc. Radiat. Transfer; vol. 20, pp. 627-636; 1978.
	CB	Donald V. Smart; "Considerations of Laser Material Interactions for the Trimming of Thin Film Resistors"; IEEE Int'l. Symp. on Circuits and Systems Proceedings, Montreal, Canada; May 7, 1984
	CC	Donald V. Smart; "Implementing Memory Redundancy: Laser Beam Alignment Targets"; Teradyne Application Report 149B; pp. 1-8.
	CD	Donald V. Smart et al.; "Laser Processing for Application Specific Integrated Circuits (ASICs); SPIE vol. 774 Lasers in Microlithography; pp. 88-92; 1987.
	CE	Donald V. Smart; "Optimization of Semiconductor Layer Thicknesses for Repair of RAMs"; Teradyne Application Report 150; pages 1-11.
	CF	Donald V. Smart; "System Considerations for the Laser Repair of Semiconductor Memories"; Technical Digest of the Conference on Lasers and Electro-Optics; Balt., MD; May 17-20, 1983.
	CG	Harris Sun et al.; "Optimization of Memory Redundancy Laser Link Processing"; SPIE; vol. 2636; June 1995.
	CH	Edward J. Swenson; "Some Present and Future Applications of Laser Processing—An Overview"; Solid State Technology; November, 1983; pages 156-158
	CI	Wells et al.; "A Technique for Automatic Focusing and Alignment of Monolithic Circuits for Laser Trimming"; Proceedings of the Third Annual Microelectronic Measurement Technology Seminar; March 1981.

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form (PTO-1449)

Attorney's Docket No.: 06457-007003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald V. Smart  
Serial No. : 10/036,431  
Filed : January 7, 2002  
Title : LASER PROCESSING

Art Unit : Unknown  
Examiner : Unknown

Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449, copies of which are enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: April 22, 2002

James E. Mrose  
James E. Mrose  
Reg. No. 33,264

Fish & Richardson P.C.  
601 Third Street, NW  
Washington, DC 20005  
Telephone: (202) 783-5070  
Facsimile: (202) 783-2331

40097601.doc

Sheet 1 of 1

Substitute Form PTO-1449 (Modified)  <b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)  (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. <b>06457-007003</b>	Application No. <b>10/036,431</b>
	Applicant <b>Donald V. Smart</b>		
	Filing Date <b>January 7, 2002</b>		Group Art Unit

U.S. Patent Documents							
Examiner Initial	Desig. ID	Patent Number	Issue Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,998,759	12/7/1999	SMART			
	AB	6,337,462	01/8/2002	SMART			
	AC	5,453,594	09/26/1995	KONECNY			
	AD						
	AE						
	AF						
	AG						
	AH						
	AI						
	AJ						
	AK						

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
	AL						Yes	No
	AM							
	AN							
	AO							
	AP							

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AQ	
	AR	
	AS	
	AT	

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Attorney's Docket No.: 06457-007003

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald V. Smart  
Serial No. : 10/036,431  
Filed : January 7, 2002  
Title : LASER PROCESSING

Commissioner for Patents  
Washington, D.C. 20231

INFORMATION DISCLOSURE STATEMENT

Applicant submits the reference listed on the attached form PTO-1449.

Under 35 USC §120, this application relies on the earlier filing date of application serial number 08/774,107, filed on December 24, 1996. The following references was submitted to or cited by the Office in the prior application and, therefore, is not provided in this application:

Hecht, "The Laser Guidebook, 2nd Edition," New York, McGraw Hill, 1992, pp. 49, 50, 60-67, 433.

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: May 16, 2002

James E. Mrose  
James E. Mrose  
Reg. No. 33,264

Fish & Richardson P.C.  
1425 K Street, N.W.  
11th Floor  
Washington, DC 20005-3500  
Telephone: (202) 783-5070  
Facsimile: (202) 783-2331

40081763.doc

Sheet 1 of 1

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. <b>06457-007003</b>	Application No. <b>10/036,431</b>
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary)		Applicant <b>Donald V. Smart</b>	
		Filing Date <b>January 7, 2002</b>	Group Art Unit
(37 CFR \$1.98(i))			

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AA	Hecht, "The Laser Guidebook, 2nd Edition," New York, McGraw Hill, 1992, pp. 49, 50, 60-67, 433

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form (PTO-1449)



Attorney's Docket No.: 06457-007003

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald V. Smart

Art Unit : Unknown

Serial No. : 10/036,431

Examiner : Unknown

Filed : January 7, 2002

Title : LASER PROCESSING

Commissioner for Patents  
Washington, D.C. 20231INFORMATION DISCLOSURE STATEMENT

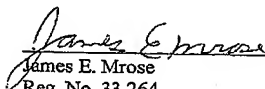
Applicant submits the references listed on the attached form PTO-1449, copies of which are enclosed.

Submitted herewith is an English translation of the following foreign language references, or portions thereof:

Desig. ID	Source
AA	English-language abstract and drawing (full Japanese patent not included)

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: August 30, 2002  
James E. Mrose  
Reg. No. 33,264Fish & Richardson P.C.  
1425 K Street, N.W.  
11th Floor  
Washington, DC 20005-3500  
Telephone: (202) 783-5070  
Facsimile: (202) 783-2331

40099918.doc

Sheet 1 of 1

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06457-007003	Application No. 10/036,431
<b>Information Disclosure Statement by Applicant</b> (Use several sheets if necessary) (37 CFR §1.98 (j))		Applicant Donald V. Smart	
		Filing Date January 7, 2002	Group Art Unit

Foreign Patent Documents or Published Foreign Patent Applications								
Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AA	JP62086851A2	4/1987	Japan	H01L 27	01	X (English- language abstract only)	

Other Documents (include Author, Title, Date, and Place of Publication)		
Examiner Initial	Desig. ID	Document
	AB	Brannon, James H.; "Excimer-Laser Ablation and Etching"; Circuits and Devices, September 1990

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Substitute Disclosure Form (PTO-1449)

Attorney's Docket No.: 06457-007003

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Donald V. Smart  
Serial No. : 10/036,431  
Filed : January 7, 2002  
Title : LASER PROCESSING

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Copies of the references listed on the attached form PTO-1449 are enclosed.

This statement is being filed within three months of the filing date of the application or before the receipt of a first Office action on the merits. Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: June 11, 2003

James E. Mrose  
James E. Mrose  
Reg. No. 33,264

Fish & Richardson P.C.  
1425 K Street, N.W.  
11th Floor  
Washington, DC 20005-3500  
Telephone: (202) 783-5070  
Facsimile: (202) 783-2331

40159492.doc

Sheet 1 of 1

Substitute Form PTO-1449 (Modified)	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 06457-007003	Application No. 10/036,431
Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98 b)		Applicant Donald V. Smart	
		Filing Date January 7, 2002	Group Art Unit
Documents (include Author, Title, Date, and Place of Publication)			
Examiner Initial	Desig. ID	Document	
	AA	General Scanning Inc., "Laser Link Fusing: Guidelines for the Applications of M3XX Laser Systems in Semiconductor Link Fusing Processes," January, 1997	
	AB	General Scanning Inc., "Mx Laser Processing Systems Applications Manual," pages 3-1 through 3-6, 1994	
	AC	Teradyne, Inc. "Enhancements for Productivity and Simplified Maintenance: Link Sprint™, Sun 3 Workstation, Diode-Pumped Nd:YLF Laser: Three New Options for the M218 Laser Processing System," 1988	

Examiner Signature	Date Considered
EXAMINER: Initials citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	
Substitute Disclosure Form (PTO-1449)	